

## Maintenance

### EXTENSIVE TYPE PLANTED ROOFS. MAINTENANCE RECOMMENDATIONS.

#### Introduction

By their nature, extensive type green roofs are **low** maintenance. Once established they will not require irrigation and will continue to develop to create a self-sustaining plant community on the roof that will also provide habitat for invertebrate and bird species. Certain procedures are recommended, particularly in the first year, to ensure the long-term success of the plants.

Inspection should also be carried out following works on the waterproofing by other trades, or following installation of new equipment.

Blackdown Greenroof offers maintenance contracts of 12 months and above depending on the client's requirement. As a general guide, it is recommended that maintenance be carried out two or three times in the first year and once or twice in each subsequent year but this depends on the type of system installed and the rate of plant cover.

#### Construction Design and Management Regulations

Under the Construction Design and Management Regulations (CDM) 2015, appropriate measures should be taken at both design and construction stages to ensure safe access and passage over the planted roof areas for maintenance personnel.

#### Health & safety

It is strictly the contractor's responsibility to ensure that all works are executed in accordance with current health and safety legislation. Guidance must be taken from relevant and current HSE publications.

#### Maintenance

All inspections/and or maintenance actions carried out on the greenroof must be in full compliance with the appropriate health and safety regulations, and particularly those specifically dealing with working at height.

Refer to current HSE publication 'The Working at Height Regulations' for further guidance.

Access and egress routes to/from the roof need to be carefully considered. Ideally these should be discussed and agreed between client/end user and Blackdown Greenroof before completion of the installation phase if a maintenance contract is required.

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Safe access across the roof could take the form of perimeter balustrade, a post and wire fall prevention system or a collapsible roof perimeter hand rail.

A post and wire fall protection system set at the perimeter of the roof will allow maintenance procedures to be carried out safely once on the roof. This permanent system should be installed prior to the planted element. Safe maintenance access can then be gained to all roof areas by personnel equipped with harnesses and lanyards (Blackdown Greenroof personnel equipped with own harness and lanyard).

Care should be taken if the roof build up includes elements within the area of the roof that also have a fall risk. Typical of this would be roof lights. If the roof lights present a hazard then installed fall prevention system locally to the roof light may have to be included.

With regards the design and installation of any fall prevention system for planted roof maintenance we would advise the following;

1. Inform supplier and installer that fall prevention system will be installed as part of a planted roof build up and will be used to gain safe access to all planted areas.
2. Clarify any supplier/installer requirements for operation of the fall protection system as part of the planted roof build up prior to placing an order.

Designing a roof so that the planted element can be maintained safely is not problematic provided that the correct information is given to the safety equipment supplier/installer. Methods of access, working on the roof and egress should then be agreed prior to the maintenance visit being required.

The following are general procedures related to the planted element of the roof only. Not all the procedures will be appropriate to every roof.

### **Trafficking of the plant layer**

Trafficking of the planted roof on the basis of 2-3 times a year will have no detrimental effect on the plant layer.

If works are to be carried out on the roof surface or to adjacent structures care should be taken to minimise damage to the plant layer resulting from repeated trafficking. In this case we would advise that access routes to the works are tightly defined to ensure damage is minimised.

If the plant material is damaged regrowth normally occurs; however, the speed of recovery will be dependent upon the level of damage, duration of the trafficking period and time of year.

### **Removal of undesirable plant material**

The Sedum and other species planted at the time of installation are well adapted to life on the roof and quickly become established, however, a few other native species may intrude. Some people welcome the colonisation of so-called 'weeds' to promote biodiversity. However, you may prefer them to be removed. Dependent upon material and site requirements, this can be done by hand or by a point application of herbicide.

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### **Pests and diseases**

Sedums are generally pest and disease free but, like many plants, can suffer from aphids or vine weevil. The care we take in production of our plants and the formulation of our Nature Mat® product discourages such problems but, if they occur, they can be controlled by environmentally friendly means.

### **Application of nutrient and soil conditioner**

The correct level of nutrients in the growing medium is important. Levels of previously applied fertiliser, season and location together with the nature and condition of the plant material and growing medium determine the procedure to be carried out.

### **Correction of system**

Over time, acidification of the growing medium can occur. This can happen particularly in built up areas where rainfall can be acidic. Acidified low nutrient growing mediums can encourage the establishment of moss. Low levels of moss are not a problem and indeed should be viewed as a significant part of the roofs biodiversity. However, if moss becomes too well established this can be at the expense of the plant layer.

### **Checking of gutters and outlets**

This should be carried out routinely during any maintenance check to ensure drainage is not impeded. We do not expect leakage of growing medium into gutterways; however, foot trafficking by other site services can result in material being kicked into drainage ways. As part of the maintenance procedures Blackdown Greenroof personnel will check for and remove any debris.

### **Removal of flower heads after flowering**

This depends on the individual aesthetic requirements of the client. Dead flowers will eventually disintegrate but the heads may be removed in late summer or early autumn if required by careful strimming. The method of strimming will be such that the flower heads are broken up and returned into the substrate layer.

### **Removal of leaf litter**

The ideal position for a green roof is in full sun. In certain situations, adjacent trees could shed leaves onto the roof surface. Depending on quantity, these may need to be removed with a leaf-blowing machine. This would be a seasonal requirement.

### **Frequency of maintenance visits**

As a General guide, frequency of maintenance visits by Blackdown Greenroof would be as follows:

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Year One: 2 – 3 visits.

Year Two and subsequent years: 1 – 2 visits.

Frequency of visits will be dependent upon system installed and rate of plant cover.

END

05/15

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